

of the Contractors have been applied to it throughout the season, which has been very favorable to their operations.

The present appearance of the work sufficiently proves how great these exertions have been, at the same time that it affords the means of judging, with tolerable accuracy, of the labor necessary to complete this most arduous part of the undertaking.

It has been already stated in this Report that the extent of what has commonly been called the Deep Cut, is nearly 1 mile and 3-4—the greatest depth of excavation necessary is 56 feet, and the average depth about 44 feet.

In one part of it they have attained the bottom level—in every section great progress has been made, and taking the whole cut through, the average depth of excavation, completed on the 1st November last, is estimated at about 18 feet.

It must be expected, of course, that the labor of excavating and raising each cubic yard will be greater as they descend; but on the other hand it is to be considered that as the Canal contracts greatly towards the bottom, the completion of the first 18 feet has required the removal of a vast deal more of earth than will be necessary for descending an equal distance beyond the present excavation.

The Directors felt it indispensable, in order to adapt the Canal to navigation by Schooners, to enlarge very materially the dimensions of this Deep Cut beyond the original design. They have been so extended as to afford 15 feet in depth at the bottom level, and the banks rise from thence to the towing path 12 feet, with a slope of nearly 2 feet to 1. The towing path is to be 10 feet in width, and on the opposite side there will be a berm of 7 feet. From thence the Canal rises with an angle of  $45^{\circ}$  to the surface. These dimensions give a surface of 43 feet of water on this portion of the Canal, viz. for a mile and 3-4 which it is calculated will admit the passing of 10,000 cubic feet of water at the rate of 1-2 a mile per hour, and thus afford an abundant supply of water for all hydraulic purposes. In the judgement of the Engineer the slope at the bottom is ample, and as there appears to be no reason to apprehend the slipping of the banks, he is of opinion the steeper the cut can be made above the towing path the better, as the less will be the surface exposed to the action of rains and frost.

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